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December 2, 1992

RP:0149

Mr. Fred M. Castro
Guam Environmental Protection Agency
D-107 Harmon Plaza
130 Rojas Street
Harmon, Guam 98911

Dear Mr. Castro:

Coastal Engineering Analysis
Cocos Island Shore Protection
Port Merizo, Guam

The referenced project proposes to protect the shore by constructing gabion seawalls (PVC-coated steel wire mesh baskets, 12 feet by 3 feet by 1.5 feet high, filled with stone and concrete debris, stacked to form a trapezoidal cross-section wall). Approximately 590 linear feet of new gabion (crest elevation 18 feet) will be built seaward of the new day-resort facilities, and 1,050 linear feet (crest elevation 11 feet) will be built around the restored north end of the island. Our review of the document was prepared with the assistance of Franciscus Gerritsen, Ocean Engineering; and Elizabeth Gordon, Environmental Center.

General Comments

Our reviewers feel that from an engineering perspective the study's methodology is in line with acceptable practices. There also seem to be few potentially negative shoreline impacts from the construction of the walls because of the extent of the setback. However, our reviewers have raised several questions about figure 1-4 where additional information would contribute to a better basis for decision making. We suggest that the present document be expanded to accommodate this concern.

Figure 1-4

Our reviewers have expressed concern that there is an insufficient secondary layer of gravel between the slope created by the selected fill material and the gabions. One of our reviewers suggests an increase in this layer which will act as a general filter beneath the gabions. Also, what materials will be used for the "selected fill material"?

On the right-hand side of the diagram, a 6 feet 0 inch concrete slab (4 inch thick) along the seawall is drawn. Which side (wave or wall) is this going to be built on? Is the concrete slab going to function as an apron of protection? If so, it would be preferable to replace the concrete with a rock filter layer to increase the flexibility of its connection with the gabions.

Thank you for the opportunity to review this document. We hope that our comments are helpful.

Sincerely,

John T. Harrison, Ph.D.
Environmental Coordinator

cc: Roger Fujioka
Franciscus Gerritsen
Elizabeth Gordon